

U.S. Patent Application Serial No. 10/525,954
Amendment filed September 14, 2006
Reply to OA dated June 16, 2006

REMARKS

Applicants have amended the claim to clarify the present invention. As now amended, the claim is to a control device that has a valve case having a fluid channel, a casing provided on an upper portion of the valve case, a valve stem disposed inside the casing and reciprocatingly movable upward and downward to cause a valve element to open or close the fluid channel, and a piston upwardly or downwardly movably provided inside the casing to define a compressed air admitting space along with a top wall of the casing. A booster means is provided for transmitting a force acting on the piston to the valve stem on amplification. In the control device, the booster means comprises at least one pivotal member supported by the casing so as to hold an outer end and an inner end thereof in contact with an outer peripheral portion of the piston and a flange portion formed on the valve stem respectively from below and pivotally movable about a horizontal rod positioned closer to the inner end. Metal bellows are provided between an outer peripheral portion of the casing top wall and the outer peripheral portion of the piston for sealing off the compressed air admitting space. The inner end of each pivotal member has an indented portion facing upward, and a pin is rollably provided in the indented portion adapted to contact the flange portion of the valve stem. Such an arrangement of a control device is not taught or suggested in the prior art.

In the Office Action, the claim is rejected as obvious under 35 U.S.C. 103(a) in view of a combination of Japan 9-26052 (JP/052) and Japan 05-187572 (JP/572). It is alleged that JP/052 shows a control device that has a piston (18), compressed air inlet (24) and a booster means with a

pivotal member (22). It is also alleged that a bellows (heat resistant bellows 26) is provided and that JP/572 teaches the use of a bellows made of metal. It would thus be obvious, the Office Action alleges, to provide the JP/052 control device with a metal bellows, and arrive at an arrangement as presently claimed. Reconsideration and removal of this rejection is respectfully requested in view of the present amendment to the claim and the following remarks.

As now amended, the control device is one in which the inner end of each pivotal member has an indented portion facing upward, and a pin rollably provided in the indented portion is adapted to contact the flange portion of the valve stem, as specified at page 8, lines 3-7 of the present specification.

As illustrated in the drawing attached hereto as Exhibit A, the ratio of amplification can be made greater by the described feature when compared with the device of JP/052. In addition, in view of the existence of “a pin rollably provided in the indented portion”, there is no need to “mount the roller 23 on the pivotal member via the shaft” as required in JP/052, and it is possible for the present invention to minimize the booster means and readily assemble the control device.

The teachings of the JP/572 reference do not cure the deficiencies of the JP/052 reference and Applicant’s claim is not taught or suggested therein.

In view of the present amendment to the claim and the above remarks, the claim is believed to be patentable over the prior art and early allowance thereof is respectfully requested.

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If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, KRATZ, QUINTOS,
HANSON & BROOKS, LLP

William G. Kratz, Jr.
Attorney for Applicants
Reg. No. 22,631

WGK/nrp
Atty. Docket No. 050112
Suite 1000
1725 K Street, N.W.
Washington, D.C. 20006
(202) 659-2930



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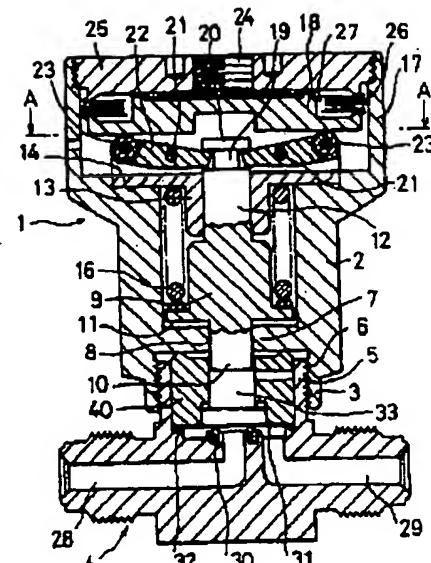
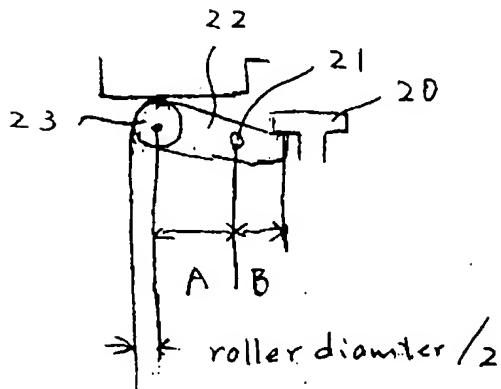


EXHIBIT A

JP/052

the ratio of amplification

$$= A/B$$



present invention

the ratio of amplification

$$= A'/B' > A/B$$

$$(\because A' = A + \text{roller dia.}/2)$$

$$B' = B - C'$$

